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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SHAPIRO, LEONID

ART UNIT

PAPER NUMBER

2673

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/653,613

Applicant(s)

LASNESKI, ALAN

Examiner

Leonid Shapiro

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) 1-33 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 44-48 is/are allowed.
- 6) ☒ Claim(s) 34-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation of claims 34: "**substantially during sampling**, repeatedly: selecting a sampled frame..." and the limitation of claims 39: "continually repeating the generating, comparing, capturing and storing throughout an image conversion" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

The limitation of claim 34: "**substantially during sampling**, repeatedly: selecting a sampled frame..." and the limitation of claims 39: "continually repeating the generating, comparing, capturing and storing throughout an image conversion" was not described in the specification and contradicted to the specification. According to the specification, only captured **reference frames** sent to a display object (See Page 19, Lines 19-25). The inbound frames become captured **reference frames** only **after** every pixel of every line of inbound frame that triggered the capture has been **completely**

processed (See page 19, Lines 13-17) and determining that preceding **inbound frame** exceeds a certain threshold of change (See page 19, Line 23). Therefore, it is impossible to replicate analog image data substantially sampling.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 34, 39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear how the newly introduced limitation of claim 34: “**substantially during sampling**, repeatedly: selecting a sampled frame...” could be done before completing the processing every pixel of every line of **inbound frame**.

It is not clear how the newly introduced limitation of claim 39: “continually repeating the generating, comparing, capturing and storing throughout an image conversion” could be done before completing the processing every pixel of every line of **inbound frame**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuzma (US Patent No. 5,574,700) in view of Manning (US Patent 5,519,790) and Drake et al. (US Patent No. 5,550,966).

As to claim 34, as best understood by examiner, Kuzma teaches a method comprising:

sampling a signal of an analog video to generate a plurality of frames of digitized image data (See Fig 1-2, items 100-105, 210, 220, 240, Col. 5, Lines 6-18), each frame having of plurality pixel values (See Col. 5, Lines 21-25);

substantially during sampling, repeatedly:

selecting a sampled frame (See Fig. 6, items 601-604) which is differ from a previously captured frame by the threshold amount (See Fig. 6, items 601-604) and eliminating frame to differ from previously captured frame by the threshold amount (See Figs. 2, 6, items 220, 230, 240, 605-607, Col. 5, Lines 58-60 and Col. 6, Lines 40-43);

capturing selected sampled frame into a memory (See Fig. 2, items 210-220, Col. 6, Lines 16-25);

transmitting captured frame to display object (See Fig 1-2, items 101-105, 220, 240, Col. 4, Lines 50-53).

Kuzma teaches comparing frames (See Fig. 6, item 602). However, Kuzma does not teach comparing pixel values differ from pixel values of a previously captured

frame and eliminating sampled frame when pixel value fail to differ from pixel values of a previously captured frame.

Manning teaches that after a key frame is established the next frame is compared to the key frame to determine whether the next frame is another key frame, capture the new key frame (See Fig. 2a-2c, items 42,50, Col.2, Lines 27-32); wherein the non-captured or (non-key) frames are skipped (See Fig. 2c, items 50,56,66, in description See Col. 6, Lines 3-5).

It would have been obvious to one ordinary skill in the art at the time of invention to use Manning approach in the Kuzma method of comparing frames to reduce video noise and also improve compressibility, required bandwidth, and reduce the storage capacity, which is always desired in any data processing (See Col. 2, Lines 15-16 in the Manning reference).

Kuzma and Manning do not show projecting the transmitted captured frames by display object to replicate analog video.

Drake et al. teaches a display object that projects (in the reference is equivalent to displays) the captured frames (See Fig. 1, items 14, 16, 92, 98, Col. 6, Lines 34-42).

It would have been obvious to one ordinary skill in the art at the time of invention to use Drake et al. approach in the Kuzma and Manning method in order to implement an automated system for capturing and replaying visual presentation (See Col. 1, Lines 9-11 in Drake et al. reference).

As to claim 35, Manning teaches the method of reducing video noise, which includes phase noise, with the threshold selection (See Col.1, Lines 53-55).

As to claim 36, Manning uses pixel values as numerical value for each color of each pixel and the difference between any of the plurality of pixel values is the difference between the numerical values for each color of each of the corresponding pixels of the converted subsequent frames to the pixel data of the captured frame (See Fig. 3-5, in description See Col. 2, Lines 26-33).

As to claim 37, Manning teaches that the difference between any of the plurality of pixel values of the compared frames exceeds a pre-selected threshold value when the absolute value of the difference is greater than the pre-selected threshold value (See Fig.2b, item 42, in description See Col.2, Lines 25-32).

As to claim 38, Manning shows that the color for each pixel includes the color red, green, and blue (See Fig. 1, item 10, 12, 14, 16, in description See Col. 3, Lines 12-14).

5. Claims 39, 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuzma in view of Manning.

As to claim 39, as best understood by examiner, Kuzma teaches a method comprising:

generating a first inbound frame that is captured as the first reference frame (See Fig 2, items 210, Col. 5, Lines 6-18) and stored in frame memory (See Fig. 2, items 210-220, Col. 6, Lines 16-25);

generating a subsequent inbound frame (See Fig 2, items 210, Col. 5, Lines 6-18);

comparing the first reference frame to subsequent inbound frame (See Fig. 6, items 601-604);

selectively capturing the subsequent inbound frame after determining that the first reference frame and the subsequent inbound frame exceeds a select threshold amount (See Figs. 2, 6, items 220, 230, 240, 605-607, Col. 5, Lines 58-60 and Col. 6, Lines 40-43);

storing the subsequent inbound frame for display by a display object (See Fig. 2, items 210-220, Col. 6, Lines 16-25); and

continually repeating the generation, comparing, capturing and storing throughout an image conversion (See Fig 6, items 601-610, from Col. 11, Line 42 to Col. 12, Line 17 and See Fig. 2, items 210-220, Col. 6, Lines 16-25).

Kuzma teaches comparing frames (See Fig. 6, item 602). However, Kuzma does not teach comparing the first reference frame pixel-by-pixel to subsequent inbound frame.

Manning teaches that after a key frame is established the next frame is compared to the key frame to determine whether the next frame is another key frame, capture the new key frame (See Fig. 2a-2c, items 42,50, Col.2, Lines 27-32).

It would have been obvious to one ordinary skill in the art at the time of invention to use Manning approach in the Kuzma method of comparing frames to reduce video noise and also improve compressibility, required bandwidth, and reduce the storage capacity, which is always desired in any data processing (See Col. 2, Lines 15-16 in the Manning reference).

As to claim 41, Manning teaches the method of reducing video noise, which includes phase noise, with the threshold selection (See Col.1, Lines 53-55).

As to claims 42-43, Manning teaches comparing pixel-by-pixel comprises comparing a numerical value for each color of each pixel including the absolute value of the difference between any of the corresponding inbound and reference pixels (See Fig. 3-5, in description See Col. 2, Lines 26-33).

6. Claim 40 rejected under 35 U.S.C. 103(a) as being unpatentable over Kuzma and Manning as applied to claim 39 above, and further in view of Lippman et al. (US Patent No. 4,673,981).

Kuzma teaches generating a first and subsequent inbound frames (See Fig 2, items 210, Col. 5, Lines 6-25).

Kuzma and Manning do not show generating a first and subsequent inbound frames is based on a pulsed vertical synchronizing signal.

Lippman et al. teaches a pulsed vertical synchronizing signal (See Fig. 3, item 18, Col. 5, Lines 59-65 and Fig. 7, item VBI, Col8, Lines 1-10).

It would have been obvious to one ordinary skill in the art at the time of invention to incorporate teaching of Lippman et al. into Kuzma and Manning system in order to process video signals (See Col. 1, Lines 5-10 in the Lippman et al. reference).

Allowable Subject Matter

6. Claims 44-48 are allowed.

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7. The following is an examiner's statement of reasons for allowance:

Relative to independent claim 44 the major difference between the teaching of the prior art of record (Kuzma, Manning and Drake et al.) and the instant invention is that the said prior art **does not teach** a pixel value comparator coupled with the buffer to compare pixel data of the frame of digital data, a capture switch configured to be set to on when the subsequent converted frame pixel data exceeds threshold amount and where the capture switch is configured to be set to off when the subsequent converted frame pixel data is below the threshold amount, a microcontroller configured to capture the subsequent converted frame with pixel data that exceeds threshold amount for storage and display.

Claims 44-48 are dependent on claim 44.

Response to Amendment

7. Applicant's arguments with filed on 06-30-04 in respect to claim 34 have been considered but are moot in view of the new ground(s) of rejection.

Telephone inquire

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 703-305-5661. The examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703-305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ls

12.29.04



VIJAY SHANKAR
PRIMARY EXAMINER